GENEE air

GENEE TECHNOLOGIES
INDIA PRIVATE LIMITED
An ISO 9001:2008 certified company

Genee Air by Genee Vision

Ceiling mounted visualiser
Installation & Operation Manual

GENEE air

User manual

Classroom for the Future

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Introduction

The Genee Air is a ceiling–mounted visualiser that displays images on monitors, plasma screens,video projectors and videoconferencing systems. It is ideal for presenting or sharing any type of object or document, from detailed images to large blueprints. The camera is installed in the ceiling above a conference table and has a low profile design that is appropriate for any room decor. Additional features include:

• Laser pointer providing accurate document position.
• Single cable carrying power, video and control, simplifying installation and con–nection.
• IR remote with increased functionality including zooming presets, brightness con–trol and laser operation.
• User accessible DIP switches that allow the Genee Air to respond to different video codec remotes.

Professional Services

If you need any additional information on how to install, set up, or operate your camera, please contact us. We welcome and encourage your comments so we can continue to improve our products and serve your needs.

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Product registration

Please register your visualiser using the online registration form in the Product section at www.geneeworld.com. We are better able to provide technical assist–ance when your product is properly registered. Registration information is also used to notify you of upgrades and new product information.

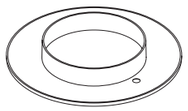
Product returns

All product returns require a return authorization (RA) number. Please contact Genee World Technical Support before attempting to return your product. Make sure you return all the items that shipped with your product and include a brief description of how the product was being used when the problem occurred.

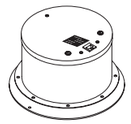
Unpacking the visualiser

Ensure that you received the following parts:

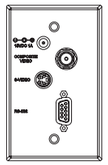
Genee Air Manual



Trim Ring



Camera Enclosure



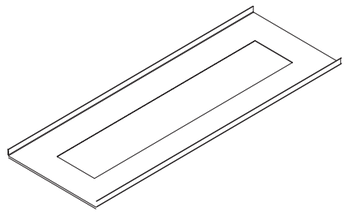
Single Wall plate

25' S-Video Cable

50' Cat. 5 Cable with RJ-45 jacks

BNC to RCA Adapter

Remote



Tile Support Rail

Triple-A batteries (2)

6-32 x 1/2 Oval Head (White)

Power Supply

Figure 1. Unpacking items

Note: Genee World is not responsible for product damage incurred during shipment. You must make claims directly with the carrier. Inspect your shipment carefully for obvious signs of damage. If the shipment appears damaged, retain the original boxes and packing material for inspection by the carrier. Contact your carrier immediately.

Important safeguards

• Read and understand all instructions before using.

• Do not operate the Genee Air if the power cord is damaged or if the Genee Air has been dropped or damaged. A qualified service technician must examine the Genee Air before operating.

• Do not attempt to take the Genee Air apart. There are no user-serviceable components inside.

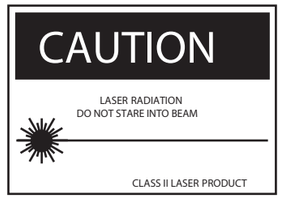
• Clean exterior of Genee Air by wiping with a clean, damp cloth; do not use abrasive chemicals.

• Do not store or operate the Genee Air under the following conditions:

- A temperature above 104° F (40° C) or below 32° F (0° C)
- Environments with high humidity
- Dusty environments
- In inclement weather
- Under severe vibration

⚠ **Attention**: Use only the power supply provided with the Genee Air. Use of any unauthorized power supply will void any and all warranties

⚠ **Attention**: Laser radiation is present. To avoid eye damage, do not stare directly into laser beam.



Product overview

Camera enclosure

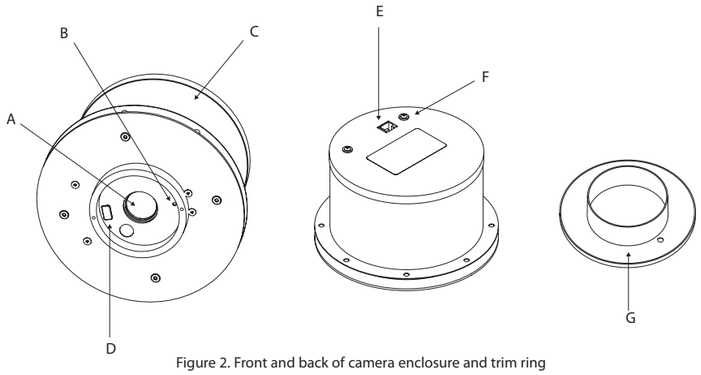


Figure 2. Front and back of camera enclosure and trim ring

A. Lens. The lens has motorized zoom capabilities up to 25X optical and 12X digital for a total of 300X.

B. Positioning indicator/laser. The laser ensures proper document orientation by indicating where a document should be placed for best viewing. Laser displays for five seconds when camera is first powered on.

⚠ **Attention:** Laser radiation is present. To avoid eye damage, do not stare directly into laser beam.

C. Camera enclosure. This metal enclosure houses the camera electronics.

D. DIP switches. These are user configurable switches for specific third party remotes.

E. RJ-45 connector. This connection provides S-Video, composite video, RS-232 and power to the rear of the wall plate using the provided 50' Cat. 5 plenum-rated cable.

F. Threaded inserts. These inserts enable attachment to a standard electrical box (not provided) using standard conduit connectors.

G. Trim ring. The trim creates a finished look when the camera is installed and holds the camera and tile together.

Front and back wall plate connections

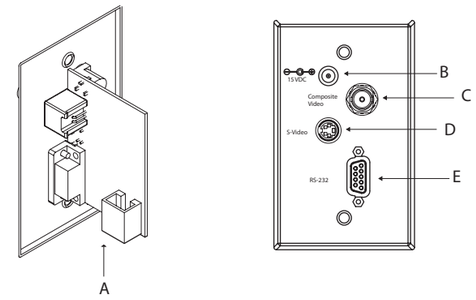


Figure 3. Front and back wall plate

A. RJ-45 Connector. The RJ-45 jack connects to the RJ-45 connector on the camera enclosure using a Cat. 5 cable

B. 15 VDC. The 15 VDC power supply jack.

C. Composite. This output jack allows the Genee Air to be connected to video display devices that require a composite signal such as codecs, TV monitors, VCRs and LCD and DLP projectors.

D. S-Video. This output jack allows the Genee Air to be connected to video display devices that require an S-video signal such as video conferencing systems, video capture cards, TVs and video to USB adapters. If your video display device has both S-Video and composite, use S-video for the highest quality image.

Both the S-Video and composite outputs are always live making it possible to connect the camera to two separate display devices at the same time.

E. RS-232. This output allows you to connect the camera to control systems such as Crestron or
AMX.

Remote

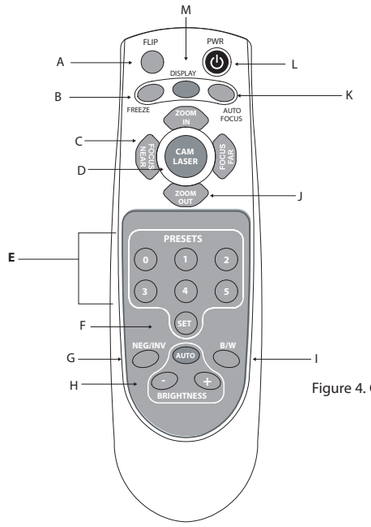


Figure 4. Genee World remote

A. Flip. Rotates image 180° on video display device.

B. Freeze. Freezes current image until you press again to release and return to live view.

C. Focus. Focus Near for close up views. Focus Far for distance views.

D. Cam Laser. Displays a laser pointer with momentary on (5 seconds) and auto off.

Use the laser pointer to position documents directly under the camera.

E. Presents. Stores up to six programmed camera setting presets (0–5).

F. Set. Press to program presets.

G. Neg/Inv. Makes image a negative. This is useful in hiding highlighted portions of documents, by making them appear not highlighted.

H. Brightness. Auto automatically adjusts brightness, (+) manually brightens image and (–) manually dims image.

I. B/W. Black/White displays image in black and white.

J. Zoom. Zoom In zooms for small images such as a stamp. Zoom Out zooms out for large images or documents such as a blueprint.

K. Auto Focus. Automatically focuses an image.

L. Power. Turns the camera on or off.

M. Display. Shows icons for all camera controls and any messages associated with the presets

Installation

Before you install

The following equipment is needed for proper installation:

- String or plumb bob
- Utility knife
- Flathead screwdriver

Be sure to check above the ceiling tile where you plan to install the camera to make sure the area is clear and that there is enough room for the Genee Air and all of its components. Use the string or plumb bob to align and center the camera directly above the viewing area. Use the utility knife to cut a hole in the tile and the screwdriver to attach the white trim ring to the camera enclosure.

Mounting the Genee Air

The Genee Air is an integrated document/object camera designed to be installed in a suspended ceiling above a table. Recommended ceiling heights are between 8 and 12 feet. The camera module enclosure and the tile support rail allow for exceptional positioning freedom when used with 2'x2' and 2'x4' ceiling tiles. The camera may be used with any tile 2' wide. The tile support rail distributes the weight of the camera into the grid and prevents tile warping. The diagram in Figure 5 shows the completed installation.

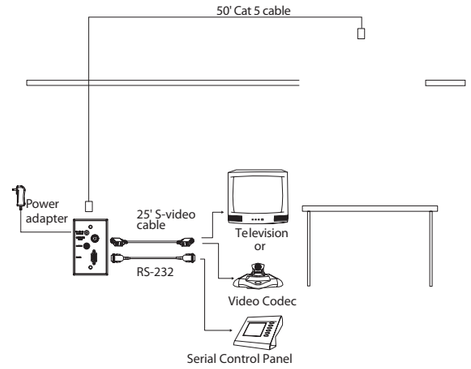


Figure 5. Complete installation

To mount the Genee Air

1. Attach a string or plumb bob to the ceiling tile with a thumb tack.
2. Position the string directly over ample table space or work surface to allow easy document and object position.
See Figure 6
3. Using a sharp utility knife, score a 3 1/2" diameter hole into the front of the tile centered on the string.
4. Cut out the 3 1/2" hole.
5. Place the tile support rail on the back side of the tile and center over the hole.
6. Rotate the camera enclosure module so that the positioning indicator is oriented toward the monitor or display device. This position is standard document camera orientation.
See Figure 7
Note: If the positioning indicator is not oriented toward the monitor or display device, your image will not be oriented properly
7. Fit the tile ring through the hole in the tile, sandwiching the tile support between the camera enclosure and the tile. The camera tile ring will fit into the 3 1/2" opening from the rear of the tile.
See Figure 8
8. Position the tile above the ceiling.
9. Attach the white trim ring to the camera enclosure from the front of the tile and tighten gently. This will pull the trim ring, camera module and tile support rail together and firmly hold the camera in position against the ceiling tile.

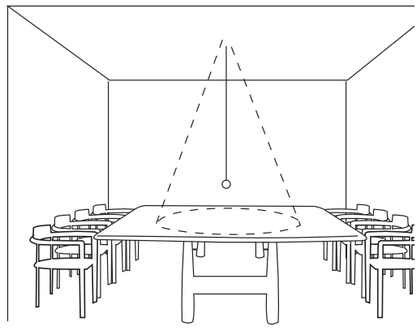


Figure 6. Positioning the Genee Air

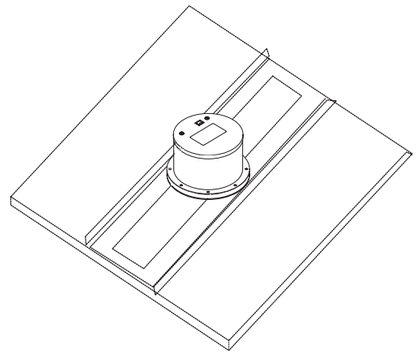


Figure 7. Support braces on 2'x2' ceiling tile

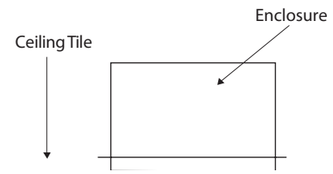


Figure 8. Enclosure and trim ring side view

Connecting cables

A single RJ-45 cable connects to the back of the wall plate providing S-Video, composite video, power and RS-232 control. The front of the wall plate provides the break-out connections for SVideo, composite video, power and RS-232 control. The wall plate may be attached to a standard single gang wall box or placed in an equipment rack in a surface mount wall box. A 50' Cat. 5 cable is included to connect the camera enclosure to the back of the wall plate. It is best to use the included Cat. 5 cable. In situations where a third party cable is necessary, the cable must be between 10' and 200' long. Using a longer cable may cause the camera to lose power.

To connect to the wall plate

1. Plug the Cat 5 cable into the RJ-45 connector on the rear of the camera enclosure.
2. Feed the wire through the ceiling to where the wall plate will be connected..
3. Connect the other end of the Cat. 5 cable to the RJ-45 connector on the back of the wall plate.
4. Install the wall plate into an electrical box.

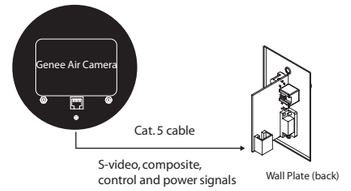


Figure 9. Enclosure with back of wall plate

To connect to the display device and control system

1. Connect the 15 VDC power supply plug into the 15 VDC jack.
2. Plug the power supply into a standard wall outlet (100V-240V).
3. Using the 25' S-Video cable, connect the S-video jack to the display device at the S-Video connector

Note: For display devices that do not have an S-Video connector, use a composite cable (not included) to connect the composite jack to the composite connector on your display device.

4. Connect a serial cable to the control system, if needed.

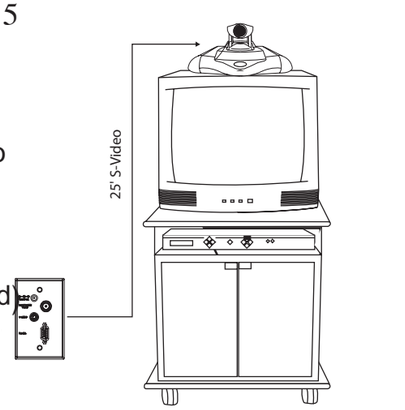


Figure 10. Connection to a video codec

Attention: Use only the power supply provided with the Genee Air. Use of any unauthorized power supply will void warranty.

Configuring for remote controls

The Genee Air can be programmed to work with the remotes listed below. DIP switches on the camera enclosure must be configured in order to work with these remotes. See Figure 2 on Page 4 for exact location of DIP switches. Use the following diagram to program your Genee Air correctly.

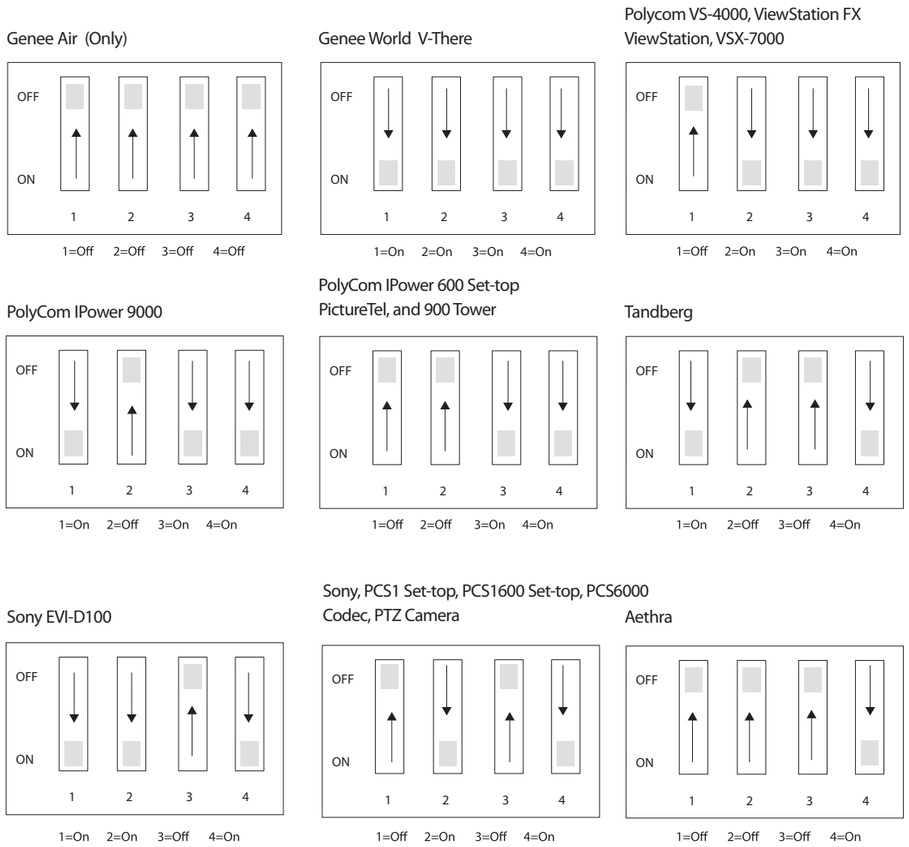


Figure 11. DIP switch configurations

Note: For best performance of the VISCA™ (a trademark of Sony Corporation) commands, set DIP switches to the ClearOne configuration when the visualiser is connected to the control port of a codec.

Note: After changing the DIP switches, visualiser must be power cycled.

Programming presets

Presets are used to program defined positions of the visualiser into a simple, one button preset. You can switch easily from a zoomed in position on a small document to a zoomed out position for documents such as blueprints. This saves the hassle of zooming in and out when presenting documents of a variety of sizes. You can program your Genee World IR remote with six different presets labeled 0–5.

Note: These presets will only work with the Genee World IR remote.

To program a preset

1. Zoom in or out to desired view.

2. Press the Set button once. The on-screen notification will indicate “Set number”

3. Press the selected preset button (0–5).

Note: If you want to reset a preset, just program a new preset using that same number. The new preset will override the old one.

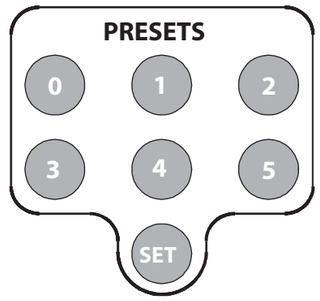


Figure 12. Presets

Operation

Using your codec remote

The only function you can control on the Genee Air from your codec remote is the zoom in or zoom out. All other functions must be performed using the Genee World remote.

Using your Genee World remote

The Genee World remote will function in all DIP switch configurations. Please refer to Figure 4 on page 6 for a complete list of remote buttons.

To zoom

1. Press the Zoom Out button to view large documents.
2. Press the Zoom In button to view documents up close

Note: When the zoom indicator passes the divider on the display bar, the camera moves from optical zoom to digital zoom. Optical zoom uses the optical lens to enlarge the image. Digital zoom crops a small section of the picture and then enlarges it to screen size. This can leave the zoomed in image looking pixelated.

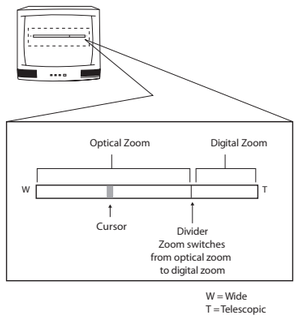


Figure 13. Zoom display

To focus an image

1. Press the Auto Focus button to automatically focus the camera.
2. Press the Focus Far button to manually focus a zoomed out view.
3. Press the Focus Near button to manually focus a zoomed in view.

To use the camera laser

1. Press the Cam Laser button.
2. Center document under laser.

The camera laser will turn off automatically after 5 seconds.

To adjust the brightness

1. Press the Auto button to have the camera automatically adjust the brightness of the on-screen image.
2. Press the – button to manually dim the on-screen image.
3. Press the + button to manually brighten the on-screen image.

Viewing areas

Viewing area depends on the distance between the ceiling and the table. Use the following tables to determine the maximum and minimum viewing areas of the Genee Air for distances of 5.5', 6.5' and 7.5'. (Most tables are about 2.5' and ceiling heights vary between 8', 9' and 10'). If the distance differs from the examples given, use the table to estimate the viewing area.

Distance between the ceiling and table: 5.5'

	Height	Width	Diagonal
Zoomed out max	2.90'	3.87'	4.84'
Zoomed in optical 25x	.13'	.17'	.21'
Zoomed in optical 25x digital 12x	.06'	.09'	.11'

Distance between the ceiling and table: 6.5'

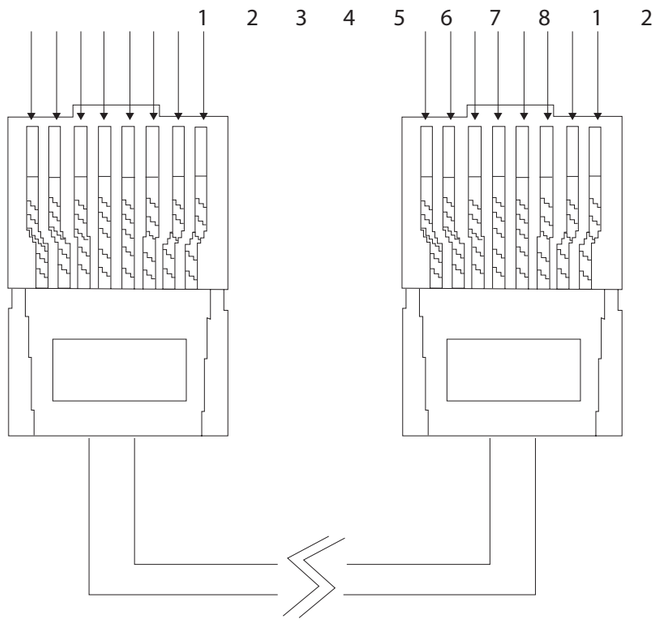
	Height	Width	Diagonal
Zoomed out max	3.43'	4.58'	5.72'
Zoomed in optical 25x	.15'	.20'	25'
Zoomed in optical 25x digital 12x	.08'	.10'	.13'

Distance between the ceiling and table: 7.5'

	Height	Width	Diagonal
Zoomed out max	3.96'	5.28'	6.60'
Zoomed in optical 25x	.17'	.23'	.29'
Zoomed in optical 25x digital 12x	.09'	.12'	.15'

Custom cable information

If you need a longer cable, for best performance use a Cat. 5E or Cat. 6 cable with a 200' maximum and 24 AWG. Use the following pinouts for the Cat. 5 or Cat. 6 cable



8 ⟶ Brown/White
7 ⟶ White/Brown
6 ⟶ Green/White
5 ⟶ White/Blue
4 ⟶ Blue/White
3 ⟶ White/Green
2 ⟶ Orange/White
1 ⟶ White/Orange

Troubleshooting

Problem	Try this
No video image	Verify that the Cat. 5 is connected between the RJ-45 jack on the back of the camera module enclosure and the RF-45 jack on the back of the wall plate. Make sure the provided 15 VDC power supply is plugged into a wall outlet and the 15 VDC jack on the wall plate. Check the S-video or composite cables to verify they are properly connected, ensure video display device is powered and make sure the display device is set to the correct video source
The IR remote control does not work	Verify fresh batteries are installed and positioned correctly. Remove power supply plug from the 15 VDC jack on the wall plate. Wait a few seconds and reinsert the power supply plug.
Can't see an entire drawing/page clearly on the video screen.	When large documents, such as blueprints, are being viewed, the smallest details may not appear perfectly. The resolution only allows zoomed in images to be clear. How-ever, in viewing normal size documents, details should be clear.